Miller, Walker, and Salmon Basin Plan
Project Management Team Meeting

Date: Thursday January 22, 2004

Time: 9:00AM – 12:00PM

Location: City of Burien Council Chambers

Meeting Summary

Attendees

Dan Bath	City of Burien
Bruce Bennett	King County
Steve Bennett	City of Normandy Park
Curt Crawford	King County
Bob Duffner	Port of Seattle
Roger Kuykendall	Gray & Osborne (for the City of Normandy Park)
Mehrdad Moini	WSDOT
Dale Schroeder	City of Sea Tac

Review and Approval of 1/08/04 PMT Meeting Summary

The 1/08/04 PMT Meeting Summary was approved as drafted.

A Note on Stream Nomenclature

Dan informed the PMT that a citizen had told him that the Miller Creek tributary that crosses Sylvester Rd (the outlet from Lake Burien – 09.0354) is locally called Elsie Creek.

Discuss Recent Hydrologic Modeling of Flow Management Options

The PMT discussed the most recent modeling information comparing the hydrologic benefits of detention and by-pass line options for flow management in Miller Creek. The detention option combining an additional 40 ac-ft at the Miller Creek Regional Detention Facility (RDF) with 12 ac-ft at the City Light property and an additional 12.5 ac-ft at Ambaum Regional Pond showed the most benefit to peak flow reduction. Most of the benefit was from the expansion of the Miller Creek RDF (this expansion would be for basin-wide benefit and would not affect the Port's required mitigation). The potential for using the Miller Creek RDF would need to be further explored with the Port. Of particular concern is the possibility of longer periods of water retention leading to increased bird usage. There could also be permitting issues due to potential wetlands impacts, there would be a need for a new dam safety analysis, and the maintenance roads near the RDF might need to be rebuilt.

Action items are highlighted

Under the detention option, peak flows would be reduced to a level roughly consistent with a 10% impervious land cover (75/15/10). While this flow goal is not an exact quantitative measure of stream health, it is an indication of the relative stability of the stream (i.e., it is likely that the stream can continue to function at this level of impact while supporting functions critical for habitat). Bob reminded the PMT that just examining the ability of a particular management option to meet the 75/15/10 basin goal is not the whole story. The most important advantage of either the detention or by-pass option is that improvements in the flow regime occur relatively quickly instead of occurring over decades, as is the case with an exclusively regulatory approach.

The by-pass line option, which would divert all flow from the Ambaum Regional Pond sub-basin but would in no way affect upstream detention requirements, including the Port's, did not reduce peak flows as effectively as the detention option. Its advantage, however, would be that Ambaum Pond could be used exclusively for water quality treatment.

The flow duration analysis showed that the options produced a similar response and appeared not to meet the 75/15/10 goal. It was difficult, however, to accurately judge the extent of erosive flows from frequent storm events. Bruce will work with the modelers to calculate a measure of erosive work that will allow for a better comparison among options.

The PMT may also want to look at the detention option without Ambaum Pond. It could then be used exclusively for water quality treatment and there would still be a positive change in the flow regime. Bruce will confirm that the existing Ambaum Pond detention does not measurably affect Miller Creek flows.

Preparation for Executive Committee Meeting

The PMT reviewed management option summary sheets prepared for the Executive Committee Meeting scheduled for 1/29. Dale asked if we had considered long-term operation and maintenance costs in our cost estimates. He indicated that for the Des Moines Creek basin plan O&M costs were about $200,000 per year. This includes funding for replacement of the by-pass line used in that basin. The costs presented on the summary sheets do not include O&M. We will inform the Executive Committee of that fact or see if an O&M estimate can be included.

Goals for the Executive Committee meeting are to inform them of progress made since they last met and to receive their okay to proceed with public meetings in March. Materials to be distributed to the Executive Committee include basin goals, maps, problems summary, schedule, management options sheets, and management options summary.

Discussion of Schedule and Upcoming Meetings

Upcoming PMT meeting dates – 1/29, 2/5, 2/12, 2/19, and 2/26

Upcoming Joint PMT/Executive Committee date – 1/29/04

Action items are highlighted

No public meeting dates were set yet. Anticipated in March. To be discussed with Executive Committee. Also awaiting comments on the DRAFT plans so that these can be available in some form.

Attachments

01/08/04 Approved PMT Meeting Summary	"010804 PMT Meeting Summary.do
Management Options Summary (will be further refined)	ManagementOptions execsum.doc
Management Options Tables (may be further refined)	ManagementOptions exec.doc

Action items are highlighted

Miller, Walker, and Salmon Basin Plan
Project Management Team Meeting

Date: Thursday January 08, 2004

Time: 9:00AM – 12:00PM

Location: City of Burien Council Chambers

Meeting Summary

Attendees

Dan Bath	City of Burien
Bruce Bennett	King County
Steve Bennett	City of Normandy Park
Steve Clark	City of Burien
Curt Crawford	King County
Bob Duffner	Port of Seattle
Roger Kuykendall	Gray & Osborne (for the City of Normandy Park)
Mehrdad Moini	WSDOT
Julie Cairn	King County

Review and Approval of 12/04/03 and 12/11/03 PMT Meeting Summaries

The 12/04/03 PMT Meeting Summary was approved as drafted. A few clarifications were made to the 12/11/03 PMT Meeting Summary, and it was approved with those clarifications.

Discuss Ecology E-mail Correspondence Regarding the Miller/Walker and Salmon Creek Basin Plans and Restoration Goals

The PMT discussed the potential significance of the Ecology input about the basin plans. Some input is consistent with the direction that the PMT has taken to date. Some of the feedback implies that a face to face discussion with Ecology staff is appropriate, to provide appropriate context. The PMT discussed and reaffirmed that it does not intend to recommend any changes in existing beneficial uses. Some comments applied if that were likely to happen.

Based on the discussion, the PMT members asked Bruce to set up a meeting between King County technical staff and Ecology staff (Ed O'Brien, Ed Abbasi, and Mark Hicks). It may also be appropriate to include Fish and Wildlife staff, per the correspondence to date. Bruce will let PMT members know when the meeting is scheduled in case they would like to attend.

The purpose of this meeting is to provide some context to Ecology and other agencies about the project, and to provide a status report. Based on the outcomes of the first

Action items are highlighted

meeting, it may be appropriate to schedule a follow up meeting between Ecology and other regulatory staff and the PMT members.

Additionally, the purpose of the first meeting is to find out any concerns that Ecology has with the work done to date and the outcomes. The PMT also has some questions for Ecology regarding their expectations of the PMT and the basin plans, and the approval/concurrence process. Also, are there any project or permit issues that need to be addressed with other State or Federal agencies? What about a potential new outfall (HPA, tide lands issues). DNR, Fish and Wildlife? Does Ecology have a process to work with these other agencies on the review/concurrence process?

Review of Management Option Tables

The PMT reviewed and discussed the Management Option tables that Bruce sent out in e-mail in advance of the meeting. These are updated versions of what was discussed at the last meeting. The three tables are significant elements in the written report DRAFT that PMT members are now reviewing as well.

Bruce will incorporate the comments from the meeting into the appropriate tables. These tables will continue to evolve as the information is discussed and assumptions are clarified. In terms of format, there was a desire expressed to simplify the presentation, and recombine the public and private costs.

Strategy Discussion for Presenting Management Options to the Executive Committee and to the Public

The PMT discussed how best to present the Management Options to the Executive Committee Members. The existing framework of information may not work the best for hitting the highlights across the disciplines (flow control, water quality, habitat, monitoring, and stewardship). It was suggested that a summary document might be a better communication tool, with the discussed tables expanded to provide key backup material. It is critical that the information provided communicates the pros and cons of the options, as well as the interconnections between the strategies.

There are some significant perceptions within the community and possibly among elected officials, regarding the options that will be recommended by the PMT. Some options will likely receive significant public resistance, even though they may offer the most significant improvements for the natural system. These tough issues include estuary reconstruction in all basins, as well as potential bypass line construction for the Miller and Walker basins. Decision-makers need to receive adequate technical information from the PMT so that they can evaluate the strategies and weigh the costs and benefits. Some options have the potential to meet goals within reasonable time periods, while others may never achieve a stated goal. This should be factored into the information as well, and highlighted appropriately.

Bruce asked the PMT for input regarding the presentation of costs (construction, contingency, design, permitting, taxes, overhead rates, etc.). Curt suggested that Doug Chin could provide a standard multiplier to apply to the construction cost to factor in design and permitting. Several PMT members shared cost multipliers they were aware of

Action items are highlighted

from their organizations. All agreed that the assumptions should be documented, whatever is used. Curt also suggested rounding up the current costs in the tables. The larger number of significant digits implies a higher degree of certainty about the costs, and this is not the case at this time.

Discussion of Ambaum Regional Pond Expansion Opportunities

Dan Bath is working with the developer who has the project adjacent to Ambaum Pond. Dan inquired about the developer's willingness to work with Burien and others to expand Ambaum Pond on the land that the developer owns adjacent to the Pond. The developer seemed willing to discuss this further. Dan would like to get some information from King County about a potential conceptual design for an expansion. Bruce and Curt and Dan will discuss this further, and King County will provide Dan with some information he can use in further discussions with the developer.

Discussion of Schedule and Upcoming Meetings

Upcoming PMT meeting dates – 1/22, 1/29, 2/5, 2/12, 2/19, and 2/26

Upcoming Joint PMT/Executive Committee date – 1/29/04

No public meeting dates were set yet. Anticipated in March. To be discussed with Executive Committee. Also awaiting comments on the DRAFT plans so that these can be available in some form.

Attendance notes: Curt will be on vacation for the 2/19 PMT meeting. Craig Stone (WSDOT) is not available for the 1/29 Executive Committee Meeting.

Other Agenda Items

The Agenda Topics pertaining to the bond funding calculations and the report audience were deferred to a later meeting due to lack of time.

Attachments

12/04/03 Approved PMT Meeting Summary	 W120403PMTMeetingSummary.pdf
12/11/03 Approved PMT Meeting Summary	 W121103PMTMeetingSummary.pdf
Management Options Tables discussed at the meeting. These will be revised in the future based on comments received during the meeting.	 "Management Options.doc"

Action items are highlighted

Miller Creek Management Options Summary Table

Option	Public Cost	Relative Effectiveness
Flow Control		
Regulations only	$0	Low
Detention facilities and regulations	$2,200,000	High
By-pass line and regulations	< $3,700,000 – cost to be shared with private sector	Medium
Water Quality		
Regulations only	$0	Low
Retrofits of existing development and regulations	>$1,000,000	Medium
Treatment facilities and regulations	$850,000	High
Habitat		
Estuary restoration	$2,500,000	High
Culvert replacement at 1st Av. S	$600,000	Medium
Add riser to sewer manhole	$50,000	Low
Remove concrete weirs	$350,000	Low
Purchase property and conservation easements	Variable	High
Monitoring and Stewardship		
Annual costs – combined with Walker Creek	$100,000	High

Walker Creek Management Options Summary Table

Option	**Public Cost**	**Relative Effectiveness**
Flow Control		
Regulations only	$0	Medium
Low-impact development retrofits plus regulations	$?	High
Water Quality		
Regulations only	$0	Low
Guardrail painting and regulations	$300,000	Medium
Habitat		
Estuary restoration	Included in Miller cost	High
Headwater wetland purchase	$925,000	Medium
Purchase property and conservation easements	Variable	High
Monitoring and Stewardship	Included in Miller cost	High

Salmon Creek Management Options Summary Table

Option	**Public Cost**	**Relative Effectiveness**
Flow Control		
Regulations only	$0	Medium
Detention facilities and regulations	$950,000	High
Water Quality		
Regulations only	$0	Low
Treatment facilities and regulations	$300,000	Medium
Habitat		
Estuary restoration	$4,000,000	Medium
Replace culvert under Shorewood Drive	$375,000	High if estuary restored Low if estuary not restored
Purchase property and conservation easements	Variable	High
Monitoring and Stewardship		
Annual costs	$50,000	High

Miller Creek Flow Regime Management Options

Option	Public Cost	Pros	Cons
Flow Control			
Regulations only Level 2 (75/15/10) detention standard	$0	• Large improvement in flow regime • Easy to implement • No expenditure of limited public funds • Consistent with Port's detention requirements • Appropriate restoration standard for urbanized basin	• **Will not reach goal flows for basin** • Only new development and re-development pays • Cost could be impediment to development • May take a long time for improvements to occur
Detention facilities and regulations Miller Creek Regional Detention Facility – increase by 40 ac-ft to 130 ac-ft Ambaum Pond – increase from 2.5 ac-ft to 15 ac-ft City Light Property – 12 ac-ft plus Level 2 (75/15/10) detention standard	Miller Creek RDF - $400,000 (Chin) Ambaum Pond - $600,000 (rough est.) City Light - $1,200,000 (Kato and Warren) Total $2,200,000	• **Will reach goal flows for basin** • More equitable cost share between public and private • Can see benefits to stream sooner	• Requires public funding source • Cities incur additional operation and maintenance responsibility and liability • Limited space to expand or construct new detention facilities
By-pass line and regulations Construct 36" HDPE by-pass line approximately 2 miles from 1st Av. S to Puget Sound to convey 100 cfs plus Level 2 (75/15/10) detention standard except no detention for Ambaum Pond sub-basin (but may need to contribute to conveyance upgrades)	$3,700,000 (Chin) Cost could be shared with private sector	• **Will largely achieve goal flows for basin (not entirely)** • More equitable cost share • Can see benefits to stream sooner • May encourage development and re-development in commercial area of Burien • Might allow Ambaum Pond to be converted to wq treatment only	• Requires public funding source • Cities incur additional operation and maintenance responsibility and liability • Must obtain permission for new discharge to Puget Sound • Must cross private property in certain locations

Miller Creek Water Quality Management Options

Option	Public Cost	Pros	Cons
Water Quality			
Regulations only Require new development and re-development to provide enhanced treatment for high-impact land uses	$0	• Will remove not only 80% TSS but also 50% of dissolved metals, a primary pollutant in the basin	• Treatment will only be provided as development and re-development occurs, so likely to take a long time
Retrofits of existing development and regulations Paint existing galvanized highway guardrails and remove stream from asphalt ditch	$1,000,000 (Moini + 50%) for guard rails along 2 miles of highway (may be cheaper to replace) and removing asphalt ditch along part of 509	• Will treat polluted water from existing development • Runoff from galvanized surfaces a major source of zinc • Reduces PAH input to stream (from asphalt) and provides habitat improvement	• Guardrail coating requires periodic maintenance • Access could be an issue • Need to ensure not to damage road prism
Treatment facilities and regulations Construct capital projects to provide water quality treatment (see below)		• Provides treatment on a sub-basin level • No need to wait for development to occur	• Expensive • Treatment may not be as effective as treatment at the source
1. Hermes Depression Move intake lines to pumps to floating platform	$100,000 (rough est.)	• Existing large detention area • Relatively simple modifications	• Ensure that flood protection capacity is not reduced
2. Ambaum Pond Create an additional 10 ac-ft of dead storage or large sand filter treatment	$500,000 (rough est.)	• Basin draining to facility has large number of pollutant sources – treatment here will benefit basin	• Space is extremely limited • Need to acquire adjacent property
3. City Light Property Include a treatment facility in addition to the detention – facility would be either dead storage or sand filter	$250,000 (rough est.)	• Provides treatment at a site in combination with detention	• Need property owner willing to sell

Miller Creek Habitat Management Options

Option	Public Cost	Pros	Cons
Habitat			
Estuary restoration Re-create functioning estuary by removing some fill material and establishing estuary plantings	$2,500,000 (Fetherston)	• Critical to restoring fish populations • Would benefit not only Miller and Walker Creeks, but Puget Sound • Relatively easy to do • Benefits are nearly immediate • Provides habitat for amphibians and birds	• Strong opposition from private property owners who own the land
Culvert replacement at 1st Av. S Existing culvert is fish passage barrier because it's too steep and flow velocities are too high	$600,000 (Chin)	• Improved passage for juvenile salmonids	• May be of limited value if estuary not restored • Could be a bird attractant hazard near airport
Add riser to sewer manhole Sewer manhole submerged in Miller Creek just downstream of 1st Av S culvert – contact SWSSD to address	$50,000 (rough est.)	• Prevents de-watering of stream and excessive I/I in sewer	• Requires coordination with sewer district and work in the stream
Remove concrete weirs Weirs in stream bed just downstream of submerged sewer manhole	$350,000 (rough est.)	• Restoring gravels in area provides habitat	• Weirs supposedly provide protection for sewer line • Requires coordination with sewer district and work in the stream
Purchase property or conservation easements whenever possible	Variable	• Will provide habitat and allow options for future management strategies	• Jurisdictions have limited funds • Often difficult to convince elected officials of importance of preservation

Miller and Walker Creek Monitoring and Stewardship Management Options

Option	Public Cost	Pros	Cons
Monitoring and Stewardship – Annual Costs			
Flow, water quality, <u>and habitat monitoring</u> Establish an on-going environmental monitoring program to collect basic hydrologic information (precipitation and stream flow), water quality data (temp, DO, hardness, fecals, nutrients, metals), and habitat data (fish counts, B-IBI)	$50,000 Annual Cost (rough est.)	• Will allow evaluation of effectiveness of regulations, capital projects, and operations and maintenance practices • Only way to be able to tell if stream is improving or not	• Requires on-going financial commitment • Often difficult to convince elected officials of its importance
<u>Basin stewardship</u> Fund a half-time position to coordinate public outreach and information, including an annual report on basin condition, coordination of volunteer activities, and distribution of LID and wq source control information	$50,000 Annual Cost (rough est.)	• Offers one-stop shopping for citizens interested in the health of the basin • Serves as a point of coordination within and between agencies • Provides good public relations	• Requires on-going financial commitment • Often difficult to convince elected officials of its importance • Potential to cause conflict between jurisdictions because must be advocate for stream, not employers

Walker Creek Flow Regime Management Options

Option	Public Cost	Pros	Cons
Flow Control			
Regulations only Level 2 (75/15/10) detention standard	$0	• Large improvement in flow regime • Easy to implement • No expenditure of limited public funds • Consistent with Port's detention requirements • Appropriate restoration standard for urbanized basin	• **Will not reach goal flows for basin, but stream looks to be in good shape** • Only new development and re-development pays • Cost could be impediment to development • May take a long time for improvements to occur
Low-impact development retrofits plus regulations Infiltrate run-off from roofs, driveways, parking lots, roads, and sidewalks	$? Need modeling to confirm benefits – need to develop cost estimate	• Should be easy to do in Walker Creek because of outwash • Provides water quality benefits	• Need access to private property • Potentially strong public opposition • Question about responsibility for future O&M

Walker Creek Water Quality Management Options

Option	Public Cost	Pros	Cons
Regulations only Require new development and re-development to provide enhanced treatment for high-impact land uses	$0	• Will remove not only 80% TSS but also 50% of dissolved metals, a primary pollutant in the basin	• Treatment will only be provided as development and re-development occurs, will likely take a long time
Guardrail painting and regulations Paint existing galvanized highway guard rails to reduce leaching of zinc	$300,000 (Moini + 50%) for painting guard rails along 2 miles of highway – may be cheaper to replace	• Will treat polluted water from existing development • Runoff from galvanized surfaces a major source of zinc	• Guardrail coating requires periodic maintenance
Determine wq protection needed for headwater wetland May need bog protection standard, adjoining storage facility may need wq treatment	$500 (rough est.)	• Determination of type of headwater wetland will allow appropriate wq protections to be put in place	• May require special wq protection regulations in area that may cause additional treatment expenditures for certain property owners

Walker Creek Habitat Management Options

Option	Public Cost	Pros	Cons
Habitat			
Estuary restoration	Included in Miller cost	See above	See above
Headwater wetland delineation and survey	$5000 (rough est.)	• Will allow type of wetland to be identified and boundaries accurately mapped	• None
Headwater wetland purchase or conservation easement	$925,000 for purchase (Burien appraisal)	• Will permanently protect wetland flow, water quality, and habitat functions	• Need to have willing property seller • Regulations could be relied on to protect wetland – why spend $ to purchase?
Purchase property or conservation easements whenever possible	Variable	• Will provide habitat and allow options for future management strategies	• Jurisdictions have limited funds • Often difficult to convince elected officials of importance of preservation

Salmon Creek Flow Regime Management Options

Option	Public Cost	Pros	Cons
Regulations only Level 1 detention standard	$0	• **Meets goal flow for basin** • Will protect conveyance system and maximize benefit of existing by-pass line • Less costly for developers	• Does not effectively address existing flooding problems in the upper watershed – need capital improvements in upper watershed
Detention facilities and regulations Examine existing by-pass line to assess condition Modify by-pass outfall to address broken manhole Reduce flooding at Mallard Lake with property purchase and drainage improvements White Center Regional Pond drainage improvements	Examine by-pass -- $1500 (Chin) Modify by-pass outfall -- $50,000 (Chin) Mallard Lake -- $750,000 (rough est.) White Center Regional Pond -- $150,000 (rough est.) Total -- $952,000	• Will address existing flooding problems at Mallard Lake	• Cost is relatively high to address flooding problems in small area

Salmon Creek Water Quality Management Options

Option	Public Cost	Pros	Cons
Regulations only Require new development and re-development to provide enhanced treatment for high-impact land uses, may also have lake protection standard for Lake Hicks	$0	• Will remove not only 80% TSS but also 50% of dissolved metals, a primary pollutant in the basin • Will require additional phosphorus control	• Treatment will only be provided as development and re-development occurs, will likely take a long time
Mallard Lake – plantings to reduce use by ducks and geese, posted fecal coliform levels, bioswale	$150,000 (rough est.)	• Will address some of the existing fecal coliform problems • Will provide a regular update to citizens regarding wq	• Citizens near lake may like lots of ducks and geese
Lake Hicks – Dilution with well water or alum treatment to prevent algal blooms due to excess phosphorus inputs to lake	Dilution - $600,000 per year (Abella) Alum - $150,000 initially, $50,000 every 3 years or so (Abella)	• Will reduce phosphorus level in the lake	• Alum needs to be re-applied every several years • If dilution method is used, then have on-going power requirement to pump water both into and out of lake • May need water rights for dilution method • Alum won't address high fecal coliform counts, dilution would

Salmon Creek Habitat Management Options

Option	Public Cost	Pros	Cons
Estuary restoration	$4,000,000 (rough est.)	• Could create habitat that is very limited in Puget Sound • Would benefit fish, amphibians, and birds	• Property owner has not expressed interest in the past • Limited fisheries potential relative to high cost
Replace culvert under Shorewood Drive	$375,000 (Chin)	• Would allow fish passage into relatively good habitat areas upstream	• Of limited value without estuary project • Limited fisheries potential relative to high cost
Purchase property or conservation easements whenever possible	Variable	• Will provide habitat and allow options for future management strategies	• Jurisdictions have limited funds • Often difficult to convince elected officials of importance of preservation

Salmon Creek Monitoring and Stewardship Management Options

Option	Public Cost	Pros	Cons
Monitoring and Stewardship – Annual Costs			
Flow, water quality, <u>and habitat monitoring</u> Establish an on-going environmental monitoring program to collect basic hydrologic information (precipitation and stream flow), water quality data (temp, DO, hardness, fecals, nutrients, metals), and habitat data (fish counts, B-IBI)	$25,000 Annual Cost (rough est.)	• Will allow evaluation of effectiveness of regulations, capital projects, and operations and maintenance practices • Only way to be able to tell if stream is improving or not	• Requires on-going financial commitment • Often difficult to convince elected officials of its importance
<u>Basin stewardship</u> Fund a quarter-time position to coordinate public outreach and information, including an annual report on basin condition and coordination of volunteer activities	$25,000 Annual Cost (rough est.)	• Offers one-stop shopping for citizens interested in the health of the basin • Serves as a point of coordination within and between agencies • Provides good public relations	• Requires on-going financial commitment • Often difficult to convince elected officials of its importance • Potential to cause conflict between jurisdictions because must be advocate for stream, not employers